

FE201

FE201

Diagram No. 8201-3

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey ... Field Examination
Field No. PA-10-2-65
Office No. FE-201

LOCALITY

State Alaska
General Locality ... Southeast Alaska
Locality Castle Islands, Duncan Canal

1965

CHIEF OF PARTY
J.K. Richards

LIBRARY & ARCHIVES

DATE July 1, 1965

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as;

FE No.4 1965

F E No. 4
1965

FE-201

FW

W

B

Diag. Cht. No. 8201-3.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PA-10-2-65 Office No. F.E.No. 4-1965

LOCALITY

State Alaska

General locality Southeast Alaska

Locality Castle Islands, Duncan Canal

1965

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USCOMM-DC 5087

F E No. 4
1965

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. F.E. 4-1965

Field No. PA-10-2-65

State ALASKA

General locality Southeast Alaska

Locality Castle Islands, Duncan Canal

Scale 1:10,000 Date of survey May 30 - June 11, 1965

Instructions dated May 18, 1965

Vessel USCGC GSS PATTON

Chief of party LCDR James K. Richards

Surveyed by LTJG Neal A. Horst

Soundings taken by fathometer, graphic recorder, ~~hand lead, wire~~

Fathograms scaled by John J. Saladin

Fathograms checked by LTJG N.A. Horst

Protracted by _____

Soundings penciled by _____

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW using ^{*}predicted tides for

REMARKS: ^{*}Actual tides were used to
reduce soundings in the volumes.
Differences of more than 0.3 fm were corrected
from actual tide values on
critical soundings only.

Jrs

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SURVEY PA-10-2-65
1:10,000 JUNE 1965
USC&GSS PATTON J.K. RICHARDS, CMDG.

A. PROJECT

This survey, Special Project 6-65, was authorized by the INSTRUCTIONS: SPECIAL PROJECT 6-65, DUNCAN CANAL, SOUTHEAST ALASKA, dated 5-18-65, and by a radiogram from the Seattle Regional Officer to the C.O., Ship PATTON, dated 5-19-65. ✓

B. AREA SURVEYED

The area covered by this survey is in Duncan Canal, Southeast Alaska, between the southwest shores of the Castle Islands and the southwest shore of Duncan Canal along Kupreanof Island. The northwest limit of the survey extends southwest from a point about midway along the southwest shore of Big Castle Island. The southeast limit lies about one-half mile southeast of the southeast end of the southerly island in the Castle Island Group. ✓

This project began on May 30, 1965, and was completed on June 14, 1965. Hydrography was accomplished on June 12 and 13, 1965.

This survey covers a small part of the area that was surveyed on sheet H-1808, 1:20,000, 1887.

No contemporary surveys junction with this sheet.

C. SOUNDING VESSEL

Launch No. CS-1191 was used for all echo soundings on this survey. Launch position numbers and day letters are shown in violet on the boat sheet. ✓

Numerous detached positions were taken on offshore rocks and along the low water line by two separate skiff parties. The positions obtained by one skiff party are shown in red on the boat sheet, while those obtained by the other skiff party are shown in blue. ✓

D. SOUNDING EQUIPMENT

All echo soundings were obtained with a Raytheon DE-723 (No. 556) portable depth recorder. Depths on this survey were recorded in fathoms, and ranged from less than one fathom to 22 fathoms. Corrections to the echo soundings were determined by bar checks at two-fathom intervals from 2 to 10 fathoms. The bar check data was supplemented by simultaneous comparisons of echo soundings and leadline soundings in depths from 11 to 19 fathoms. ✓

E. SMOOTH SHEET

No smooth sheet ~~has yet been~~ ^{will be} made for this survey. This descriptive report is submitted with the boat sheet as an aid to the smooth plotter. ✓

F. CONTROL

Five triangulation stations were established in the project area by extending second-order, class II triangulation from the existing triangulation that was established in Duncan Canal in 1959. Six additional signals for control of the hydrography were located by graphic intersection from planetable setups at the triangulation stations. The applicable planetable sheet is PA-B-65. ^{T-7143} Additional details concerning the triangulation and the planetable operations are given in the Triangulation Report and the Topographic Descriptive Report, which accompany the field records. ✓

All positions taken during the hydrographic survey were controlled by 3-point sextant fixes on the triangulation and topographic signals on shore. ✓

G. SHORELINE

The mean high water line within the area of this survey was delineated by alidade cuts and stadia distances on planetable sheet PA-B-65. The Topographic Descriptive Report contains detailed information regarding the shoreline survey. ✓ ^{T-7143 (65)}

A mylar "manuscript" was made and the shoreline transferred to it from the planetable sheet; the shoreline was then transferred from the mylar to the boat sheet. ✓

The low water line was determined by taking sextant fixes at numerous points along the water's edge at low water. Part of the low water line along Kupreanof Island was also defined by echo sounding from the launch on the regular system of sounding lines. ✓

H. CROSSLINES

The regular system of sounding lines is perpendicular to the depth curves. Two crosslines were run, parallel with the main channel through the project area. These crosslines represent sixteen percent of the hydrography. No discrepancies were noted at the crossings. ✓

I. JUNCTIONS

There are no junctions with other surveys. ✓

J. COMPARISON WITH PRIOR SURVEYS

The only prior survey in this area is sheet No. 1808, 1:20,000, 1887. Since the old survey contains only 28 soundings within the project area, a comprehensive comparison is impossible. The few soundings that are on the prior survey are in reasonable agreement with the current survey. ✓ The only depth curve shown on the prior survey is the 10-fathom curve, and there were not enough soundings to adequately delineate it; for example, the old survey does not show the 8-fathom ridge that parallels the southerly island about 300 meters off the southwest shore of the island.

K. COMPARISON WITH THE CHART

The only chart covering Duncan Canal is Chart 8201, which is too small a scale for an adequate comparison. The current survey revealed no important dangers to navigation that could be added to Chart 8201. ✓

It is recommended that modern basic surveys be undertaken in Duncan Canal for the compilation of a large-scale chart of the area.

L. ADEQUACY OF SURVEY

Although this project was assigned as a reconnaissance survey, it is felt that the requirements of a basic survey have been met and that the survey is complete and adequate for future charting. The shoreline surveys, however, should be superseded by future photogrammetric surveys. ✓

M. AIDS TO NAVIGATION

There are no aids to navigation within the area of this survey. ✓

N. STATISTICS

| <u>Vessel</u> | <u>No. of Positions</u> | <u>Nautical Miles of Sounding Lines</u> |
|---|-------------------------|---|
| Launch CS-1191 | 267 | 23.0 |
| Skiff Party No. 1 | 44 | ---- |
| Skiff Party No. 2 | 47 | ---- |
| TOTAL | 358 | 23.0 |
| Square Nautical Miles of Soundings | | 1.1 |
| Bottom Samples | | 4 |
| Tide Stations | | 1 |
| Statute Miles of Shoreline Surveyed by Planetable | | 3.0 |

O. MISCELLANEOUS

The shores of Kupreanof Island, within the project area, are primarily mud flats that bare up to several hundred meters offshore at low water. Northeast of triangulation station SLOUGH 1965, mud flats, gravel ridges and rocky ledges extend almost half a mile offshore. The outermost rocks, in the vicinity of latitude $56^{\circ} 38.8' N$, longitude $133^{\circ} 10.4' W$, bare at most stages of the tide, but are covered at high water. ✓

The southwest shores of the two islands south of Big Castle Island are generally steep-to, except at the north end of the northerly island, where depths less than 5 fathoms extend about 200 meters westward.

The channel between the two islands south of Big Castle Island is shoal, with a 5-foot rock situated just northwest of mid-channel. The channel between Big Castle Island and the first island to the south provides depths of over 5 fathoms; however, the 5-fathom channel is only 70 - 80 meters in width. ✓

A clear channel of at least 10 fathoms extends the length of the project area, parallel with the islands. At the northwest end of the project area, the 10-fathom channel narrows to about 100 meters; northwest of the project limits, the depths shoal considerably as one approaches the Castle River mud flats. ✓

The bottom is primarily muddy in this area. The PATTON anchored in the vicinity of latitude $56^{\circ} 38.5' N$, longitude $133^{\circ} 09.7' W$ in 9 - 11 fathoms, good holding ground. ✓

Although currents were not measured on this project, it was noted that a significant tidal current of perhaps 2 knots flowed northwest with the flood and southeast with the ebb. ✓

P. RECOMMENDATIONS

This project was assigned as a reconnaissance survey; however, it is felt that this survey is of a quality sufficient to replace the prior survey for charting purposes. ✓

It is recommended that the shoreline in this area, as well as in the rest of Duncan Canal, be defined by modern photogrammetric methods. It is also recommended that a large-scale chart be compiled from additional basic surveys in Duncan Canal. The present small-scale chart is inadequate for the navigation of deep-draft vessels in Duncan Canal. ✓

Q. REFERENCES TO REPORTS

Other reports pertaining to this project are:

Project Report

Topographic Descriptive Report

Triangulation Descriptive Report

These reports, as well as the boat sheet, planetable sheet, and all records and computations necessary for smooth-plotting this sheet were forwarded to the Seattle Regional Office on June 18 and 19, 1965. Tidal records and triangulation data were forwarded to the Washington Science Center on June 19, 1965.

TIDE NOTE
to accompany
Sheet PA-10-2-65

A portable automatic tide gage was installed near the southeast end of the southerly island in the Castle Islands. The location of the tide gage was determined by planetable on Sheet PA-B-65. The position of the gage is: Latitude $56^{\circ} 38' 35''$ N, Longitude $133^{\circ} 09' 09''$ W. The 120° W time meridian was used on the tidal records.

The gage was installed on June 1, 1965 and was removed on June 14, 1965. The tidal records were interrupted on June 3 and 4, when a loose gear nut caused a malfunction.

The tide staff consisted of a vitrified scale screwed to the side of the wooden float well. Three bench marks were established in the vicinity of the gage. Levels were run when the gage was installed and again when the gage was removed. The levels indicated no significant movement of the tide staff.

The value of mean lower low water on the tide staff has not yet been determined by the Washington Science Center office. The marigrams were forwarded to the Washington Office on June 19, 1965.

Tide reducers for soundings plotted on the boat sheet were derived from predicted tides of Duncan Canal entrance, No. 1429 in the West Coast Tide Tables.

*Differences of more than .3 fm with
actual tides were removed by applying
actual tides to soundings (critical soundings only)*

CORRECTIONS TO ECHO SOUNDINGS
 Vessel: Launch 1191
 Fathometer: Raytheon DE-723 (No. 556)

These corrections are to be used for all echo soundings on
 Sheet PA-10-2-65

| <u>Correction (fms)</u> | <u>To Depth (fms)</u> |
|-------------------------|--------------------------------------|
| + 0.2 | 8.5 |
| + 0.3 | 10.1 |
| + 0.4 | 13.1 |
| + 0.5 | all greater depths on this survey |

These corrections were derived from bar checks at 2-fathom intervals from 2 to 10 fathoms, and by simultaneous comparisons of echo soundings and leadline soundings in depths from 11 to 19 fathoms. The maximum depth obtained on this survey was 22 fathoms.

Three fathometer-leadline comparisons were made on the morning of June 13, 1965 but the bottom was too soft and this data was rejected. Simultaneous comparisons were attempted again about noon on the same day in an area of relatively hard bottom, near the time of slack water. Five good comparisons were obtained at this time; this data is recorded in Volume I, opposite page 57. The leadline calibration is recorded in Volume I, page 58.

The correction curve and an abstract of bar checks and leadline comparisons follow.

ABSTRACT OF BAR CHECKS

| <u>Fathometer Reading</u> | <u>True Depth</u> | <u>Correction</u> |
|---------------------------|-------------------|-------------------|
| 1.8 | 2.0 | + 0.2 |
| 3.8 | 4.0 | + 0.2 |
| 5.79 | 6.0 | + 0.21 |
| 7.76 | 8.0 | + 0.24 |
| 9.66 | 10.0 | + 0.34 |

LEADLINE COMPARISONS

| <u>Fathometer Depth</u> | <u>Leadline Depth</u> | <u>Correction</u> |
|-------------------------|-----------------------|-------------------|
| 14.3 | 14.8 | + 0.5 |
| 11.0 | 11.5 | + 0.5 |
| 16.8 | 17.3 | + 0.5 |
| 19.2 | 19.7 | + 0.5 |
| 13.1 | 13.6 | + 0.5 |

CORRECTIONS IN , FATHOMS

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey

Ship PATTONJAMES K. RICHARDS Comdg.These corrections are to be used
between (All days) 19 and 19in the locality DUNCAN CANALfor hydrographic surveys Nos. PA-10-2-65SP-6-65

| CORRECTION (Fms) | TO DEPTH (Fms) |
|------------------|--------------------|
| +0.2 | 8.5 |
| +0.3 | 10.1 |
| +0.4 | 13.1 |
| +0.5 | all greater depths |

- BAR CHECK DATA
- x LEADLINE COMPARISONS

(For deep water add a 0 to these figures)

DEPTHS IN FATHOMS

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
20

LIST OF SIGNALS
on Sheet PA-10-2-65

| <u>Name used in hydrographic survey</u> | <u>Origin of Station</u> |
|---|--------------------------|
| Bar | BARITE, 1965 |
| Cab | CABIN, 1965 |
| Chet | CHET, 1959 |
| Day | CLIFF, 1965 |
| End | PA-B-65 T-7143 |
| Eva | PA-B-65 |
| Few | PA-B-65 |
| Key | PA-B-65 |
| Log | PA-B-65 |
| Mine | MINE, 1965 |
| Mud | SLOUGH, 1965 |
| Toy | PA-B-65 |

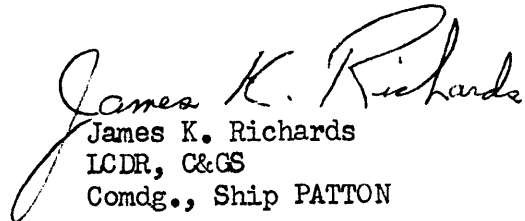
10

APPROVAL SHEET
PA-10-2-65

Hydrography on this sheet was closely inspected by me at the end of each day's work. The survey is considered complete and adequate for the purpose intended. All field records have been examined and found to be complete.

The recommendations contained within this descriptive report are my own.

Since the smooth sheet has not yet been plotted, this approval sheet applies only to the boat sheet and field records.


James K. Richards
LCDR, C&GS
Comdg., Ship PATTON

TIDES: HOURLY HEIGHTS

FOR TIMES OF
HYDROGRAPHY ONLY.

Station: CASTLE ISLANDS, DUNCAN CANAL Year: 1965
Observer: USC+GSS PATTON Lat. 56° 38' 35" Long. 133° 09' 09"
Time Meridian: 120° W Height datum is MLLW which is _____ ft. below B. M.

16-47802-2 U. S. GOVERNMENT PRINTING OFFICE

| Month and Day | mo. | d. | d. | d. | d. | d. | d. | d. | Horizontal Sum |
|---------------|---------|------|--------|------|------|------|------|------|----------------|
| Day of Series | | | | | | | | | |
| Hour | Feet | Feet | Feet | Feet | Feet | Feet | Feet | Feet | Feet |
| 0 | . | . | . | . | . | . | . | . | . |
| 1 | . | . | . | . | . | . | . | . | . |
| 2 | . | . | . | . | . | . | . | . | . |
| 3 | . | . | . | . | . | . | . | . | . |
| 4 | . | . | . | . | . | . | . | . | . |
| 5 | . | . | . | . | . | . | . | . | . |
| 6 | 7.0 ✓ | . | . | . | . | . | . | . | . |
| 7 | 6.6 ✓ | . | 6.4 ✓ | . | . | . | . | . | . |
| 8 | 7.65 ✓ | . | 6.3 ✓ | . | . | . | . | . | . |
| 9 | 8.4 ✓ | . | 6.5 ✓ | . | . | . | . | . | . |
| 10 | 9.8 ✓ | . | 6.8 ✓ | . | . | . | . | . | . |
| 11 | 12.8 ✓ | . | 8.3 ✓ | . | . | . | . | . | . |
| Noon | 16.0 ✓ | . | 11.1 ✓ | . | . | . | . | . | . |
| 13 | 18.9 ✓ | . | 14.3 ✓ | . | . | . | . | . | . |
| 14 | 20.9 ✓ | . | 17.6 ✓ | . | . | . | . | . | . |
| 15 | 21.25 ✓ | . | 20.3 ✓ | . | . | . | . | . | . |
| 16 | 21.1 ✓ | . | 21.5 ✓ | . | . | . | . | . | . |
| 17 | 19.0 ✓ | . | 21.6 ✓ | . | . | . | . | . | . |
| 18 | 16.0 ✓ | . | 20.6 ✓ | . | . | . | . | . | . |
| 19 | 12.75 ✓ | . | . | . | . | . | . | . | . |
| 20 | 10.6 ✓ | . | . | . | . | . | . | . | . |
| 21 | 10.05 ✓ | . | . | . | . | . | . | . | . |
| 22 | 10.05 ✓ | . | . | . | . | . | . | . | . |
| 23 | 11.45 ✓ | . | . | . | . | . | . | . | . |
| Sum | JKZ | . | JKZ | . | . | . | . | . | . |

Sum for _____ = Divisor = (28d) 672; (29d) 696; (30d) 720; (31d) 744. Mean for month =

Tabulated by _____ Date _____ Summed by _____ Date _____

TIDES: HOURLY HEIGHTS

Station: _____ Year: _____
Observer: _____ Lat. _____ Long. _____
Time Meridian: _____ Height datum is _____ which is _____ ft. below B. M. _____

16-47802-2 U. S. GOVERNMENT PRINTING OFFICE

| Month and Day | mo. | d. | d. | d. | d. | d. | d. | d. | d. | d. | d. | d. | Horizontal Sum |
|---|------|----|------|----|------|----|------|----|------|----|------|----|----------------|
| Day of Series | | | | | | | | | | | | | |
| Hour | Feet | | Feet | | Feet | | Feet | | Feet | | Feet | | Feet |
| 0 | . | | . | | . | | . | | . | | . | | . |
| 1 | . | | . | | . | | . | | . | | . | | . |
| 2 | . | | . | | . | | . | | . | | . | | . |
| 3 | . | | . | | . | | . | | . | | . | | . |
| 4 | . | | . | | . | | . | | . | | . | | . |
| 5 | . | | . | | . | | . | | . | | . | | . |
| 6 | . | | . | | . | | . | | . | | . | | . |
| 7 | . | | . | | . | | . | | . | | . | | . |
| 8 | . | | . | | . | | . | | . | | . | | . |
| 9 | . | | . | | . | | . | | . | | . | | . |
| 10 | . | | . | | . | | . | | . | | . | | . |
| 11 | . | | . | | . | | . | | . | | . | | . |
| Noon | . | | . | | . | | . | | . | | . | | . |
| 13 | . | | . | | . | | . | | . | | . | | . |
| 14 | . | | . | | . | | . | | . | | . | | . |
| 15 | . | | . | | . | | . | | . | | . | | . |
| 16 | . | | . | | . | | . | | . | | . | | . |
| 17 | . | | . | | . | | . | | . | | . | | . |
| 18 | . | | . | | . | | . | | . | | . | | . |
| 19 | . | | . | | . | | . | | . | | . | | . |
| 20 | . | | . | | . | | . | | . | | . | | . |
| 21 | . | | . | | . | | . | | . | | . | | . |
| 22 | . | | . | | . | | . | | . | | . | | . |
| 23 | . | | . | | . | | . | | . | | . | | . |
| Sum | . | | . | | . | | . | | . | | . | | . |
| Sum for _____ = Divisor=(28d) 672; (29d) 696; (30d) 720; (31d) 744. Mean for month= | | | | | | | | | | | | | |

Tabulated by _____ Date _____ Summed by _____ Date _____

REPORT—TIDE STATION

Station Castle Islands, Duncan Canal Lat. 56° 38' 39"
Established USCGC PATTON Long. 133° 02' 09" Time Mer. 120° W
~~Inspected by~~ USCGC PATTON Installed June 1, 1965
Date Discontinued June 14, 1965
Wharf.—Name and location* Near south end of southerly of two islands southeast of Big Castle Island, Duncan Canal
Owner and arrangements for maintaining station _____
Maintained by Ship PATTON personnel for control of hydrographic surveys
Tide Observer.—Name and address USCGC PATTON
Regular business _____
Tide House.—Size and brief description None

Tide Staff.—Portable or fixed Fixed Date of installation 6-1-65
Star support Removed 6-14-65
Fixed staff
Limits of graduations 0-30 ft. Hinged? No Vitrified scale? Yes Glass tube? No
Scale graduation corresponding to stop — ft. Is staff support sheathed with copper? —
Method of securing staff and support in place and remarks Vitrified scale screwed to side of wooden float well.

Automatic Gage.—Standard or portable portable Date of installation 6-1-65 / Removed 6-14-65
C. & G. Survey No. 188 Scale 1:45 Removable pencil-screw? —
Float, size 3 1/4 in.; weight — lb. Counterpoise — lb. Tension weight — lb.
Is movable pulley used with counterpoise? —; with tension weight? —
Remarks: _____

Float Well (automatic gage).—Material Wood Date of installation 6-1-65
Length, top to intake 30 ft. Inside diameter 6 in. X 6 in. in. Size and position of intake _____ in.
Six 1" diam. holes in sides near base of well and one 1" diam. hole in bottom.
Construction, installation, and remarks Secured to a vertical rock cliff. Anchored at bottom by rocks wired to base, and by stake extending below base into mud bottom. Anchored to rock cliff by 2" X 4" braces and by guy wires.

*A section of chart showing location should accompany this report.

(OVER)

(USE REVERSE SIDE OF FORM FOR ADDITIONAL INFORMATION)

JSCOMM-DC 27019

Measurements.—Referred to wharf floor unless otherwise indicated. Negative sign to be used when point is above wharf floor.

| | | (Automatic gage) | (Tape gage) |
|------------------------------|-----|-----------------------------|-------------|
| Top of staff support | ft. | Top of float well | ft. |
| Zero of tide staff | ft. | Intake to well | ft. |
| Harbor bottom at staff | ft. | Harbor bottom at well | ft. |

Bench Marks.—Date of levels to tide staff 6-11-65 Number of marks connected 3
Number of new marks established 3 Number of old marks recovered 0

(COMPLETE DESCRIPTIONS OF BENCH MARKS MUST ACCOMPANY LEVELING RECORD)

Inventory of Instruments: ABSTRACT OF LEVELS - 1 JUNE 1965 - INSTALLATION OF GAGE

Elevations above zero of tide staff.

B.M. NO. 1 (1965) 25.166 ft.

B.M. NO. 2 (1965) 22.871 ft.

B.M. NO. 3 (1965) 23.250 ft.

ABSTRACT OF LEVELS - 11 JUNE 1965 - REMOVAL OF GAGE

Elevations above zero of tide staff.

B.M. NO. 1 (1965) 25.119 ft.

B.M. NO. 2 (1965) 22.861 ft.

Additional Information: B.M. NO. 3 (1965) 23.235 ft.

This portable tide gage was installed for control of hydrographic surveys for Special Project 6-65, Duncan Canal, Southeast Alaska.

Recommendations:

NOTE.—This form being designed both for the establishment and an inspection of a tide station, questions not pertinent to the work at hand may be omitted; but at the time of an inspection it is desirable that the depth of water and such other information as can be conveniently obtained should be entered in the form in order that any changes since the previous inspection may be detected.

GEOGRAPHIC POSITIONS

For Official Use Only II 486

Locality Duncan Canal

North American 1927 Datum

Accession No. of Computation: 6479

--order Triangulation. State Alaska

| STATION | LATITUDE AND LONGITUDE | SECOND IN METERS | AZIMUTH | BACK AZIMUTH | TO STATION | DISTANCE | | |
|----------------|---------------------------------------|------------------|--|---|--------------------------|----------------------------------|----------------------------|------------------------|
| | | | | | | LOGARITHM (METERS) | METERS | FEET |
| Grassy 1929 | d.m. 56 35 41.900 133 06 19.686 | 1296.1 335.9 | 309 51 34.1 351 44 24.5 | 129 53 11.8 171 44 40.4 | Point Short | 3.415432 3.353589 | 2602.7 2257.3 | 8539 7406 |
| Fair 1929 | d.m. 56 35 38.769 133 03 38.461 | 1199.2 656.3 | 25 38 31.4 48 39 39.9 92 02 04.2 | 205 37 54.5 228 37 41.2 271 59 49.6 | Point Short Grassy | 3.241393 3.509794 3.439808 | 1743.4 3234.4 2753.0 | 5720 10612 9032 |
| Fox 1929 | d.m. 56 36 08.332 133 05 45.209 | 257.7 771.3 | 292 54 16.1 35 44 24.5 | 112 56 01.9 215 43 55.7 | Fair Grassy | 3.370721 3.003135 | 2348.1 1007.2 | 7704 3304 |
| Farm 1929 | d.m. 56 36 08.367 133 02 52.284 | 258.8 892.0 | 40 43 18.4 76 59 55.3 89 59 56.8 | 220 42 39.8 256 57 02.1 269 57 32.4 | Fair Grassy Fox | 3.082025 3.560191 3.469874 | 1207.9 3632.4 2950.4 | 3963 11917 9680 |
| Limit 1929 | d.m. 56 36 48.103 133 05 50.168 | 1487.9 855.7 | 292 01 45.4 356 03 54.3 | 112 04 13.9 176 03 58.4 | Farm Fox | 3.515078 3.090994 | 3274.0 1233.1 | 10741 4046 |
| Upper 1929 | d.m. 56 36 56.255 133 02 33.173 | 1740.1 565.8 | 12 24 50.4 65 40 30.1 85 43 51.9 | 192 24 34.4 245 37 49.7 265 41 06.5 | Farm Fox Limit | 3.180905 3.555773 3.527552 | 1516.7 3595.6 3369.4 | 4976 11797 11054 |
| Odd 1929 | d.m. 56 38 24.622 133 04 00.463 | 761.6 7.9 | 344 34 10.8 32 04 52.3 | 164 35 07.7 212 03 20.7 | Farm Limit | 3.640683 3.546921 | 4372.0 3523.1 | 14344 11559 |
| Hang 1929 | d.m. 56 37 31.440 133 03 16.950 | 972.5 289.0 | 350 41 55.1 62 51 33.1 155 43 56.4 | 170 42 15.7 242 49 25.2 335 43 20.1 | Farm Limit Odd | 3.415608 3.467864 3.256365 | 2603.8 2936.7 1804.5 | 8543 9635 5920 |
| | | | | | | F.L.C. | C.N.C. | |

* No check on this position.

Abbreviations used: d.=described; m.=marked; n.=not; r.=recovered; l.=lost; p.=probably. (Examples: n. d.=not described; p. l.=probably lost)

For Official Use Only

GEOGRAPHIC POSITIONS

For Official Use Only II 487

Accession No. of Computation: 6479

Locality Durican Canal

North American 1927 Datum

Order Triangulation. State Alaska

16-55628 U. S. GOVERNMENT PRINTING OFFICE

| STATION | LATITUDE AND LONGITUDE | SECONDS IN METERS | AZIMUTH | BACK AZIMUTH | TO STATION | DISTANCE | | |
|---------------------|------------------------|-------------------|--------------|--------------|------------|--------------------|--------|--------|
| | | | | | | LOGARITHM (METERS) | METERS | FEET |
| ✓ High | 56 37 11.738' | 363.1 | 224 58 49.1' | 45 00 39.5' | Odd' | 3.503521 | 3188.0 | 10459' |
| 1929 | d.m. 133 06 12.677' | 216.2' | 258 29 01.4' | 78 31 28.1' | Hang' | 3.485422 | 3057.9 | 10032' |
| | | | 299 48 31.3' | 119 51 18.6' | Farm' | 3.595535 | 3940.4 | 12928' |
| Kef 2 | 56 30 20.180' | 624.2 | 5 23 20.6 | 185 22 56.5' | Nita 2' | 3.721594 | 5267.4 | 17281' |
| 1929 | n.d. 132 55 03.689' | 63.1' | 29 08 20.1 | 209 05 31.7' | John' | 3.851624 | 7106.0 | 23314' |
| | | | 64 07 52.7 | 244 02 13.8 | White' | 3.888307 | 7732.3 | 25368' |
| | | | 94 49 43.6 | 274 48 54.1 | Alex' | 3.008078 | 1018.8 | 3343' |
| Low Pt. Beacon | 56 27 29.778' | 921.1' | 100 01 25.2 | 280 01 17.9 | Nita 2 | 2.184385 | 152.9 | 502 |
| 1929 | d. 132 55 23.784' | 407.3' | 106 00 03.6 | 285 54 41.6 | White' | 3.837590 | 6880.1 | 22572' |
| | | | 172 51 18.0 | 352 50 45.3 | Alex' | 3.732260 | 5398.3 | 17711' |
| Vichnefski Rock Lt. | 56 26 19.428' | 600.9' | 123 41 54.9 | 303 39 30.9 | Louise' | 3.551145 | 3557.5 | 11672' |
| 1929 | n.d. 133 00 49.607' | 850.0' | 165 42 45.9 | 345 41 55.5 | White' | 3.622969 | 4197.3 | 13771' |
| | | | 243 18 42.2 | 63 20 42.2 | John' | 3.440828 | 2759.5 | 9053' |
| Eares | 56 30 22.166 | 685.6 | 251 41 44.8 | 71 43 08.1 | First' | 3.255210 | 1799.7 | 5905' |
| 1929 | d.m. 133 01 04.668 | 79.8 | 12 44 27.5 | 192 43 49.6 | White' | 3.547480 | 3527.6 | 11573' |
| | | | 91 08 01.8 | 271 05 36.2 | Lung' | 3.475115 | 2986.2 | 9797' |
| | | | 138 26 17.7 | 318 25 06.3 | Hope' | 3.343688 | 2206.4 | 7239' |
| Isle | 56 30 53.441' | 1653.0 | 279 04 16.8 | 99 06 19.5 | First | 3.406217 | 2548.1 | 8360' |
| 1929 | d.m. 133 01 51.886 | 887.3' | 359 36 20.9 | 179 36 22.4 | White' | 3.644271 | 4408.3 | 14463' |
| | | | 67 21 02.9 | 247 19 16.7 | Lung' | 3.372900 | 2359.9 | 7742' |
| | | | 136 09 00.5 | 316 08 28.5 | Hope' | 2.976613 | 947.6 | 3109' |
| | | | | | | F.L.C. | C.N.C. | |

✓ No check on this position. Abbreviations used: d. = described; m. = marked; n. = not; r. = recovered; l. = lost; p. = probability. (Examples: n. d. = not described; p. l. = probably lost.)

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FORM 7887
(1-5-55)

GEOGRAPHIC POSITIONS

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

III 950

Accession No. of Computation:

Locality Duncan Canal

North American 1927 Datum

Second

—order Triangulation. State Alaska

| STATION | | LATITUDE AND LONGITUDE | SECONDS IN METERS | AZIMUTH | BACK AZIMUTH | TO STATION | DISTANCE | | |
|----------------|------|------------------------|-------------------|-------------|--------------|------------|--------------------|----------|------|
| | | | | | | | LOGARITHM (METERS) | METERS | FEET |
| Mel, 1959 \ | d.m. | 56 37 37.031 | | 245 31 27.5 | 65 34 06.1 | Odd | | 3,556.14 | |
| | | 133 07 10.355 | | 308 29 39.1 | 128 30 27.3 | High | | 1,256.73 | |
| Kell, 1959 \ | d.m. | 56 39 59.474 | | 322 25 46.9 | 142 27 37.5 | Odd | | 3,700.72 | |
| | | 133 06 12.858 | | 359 57 57.4 | 179 57 57.5 | High | | 5,188.42 | |
| Chet, 1959 \ | d.m. | 56 38 04.281 | | 12 32 39.1 | 192 31 51.1 | Mel | | 4,513.70 | |
| | | 133 08 19.391 | | 211 09 49.3 | 31 11 35.0 | Kell | | 4,164.72 | |
| Clover, 1959 \ | d.m. | 56 40 03.608 | | 261 51 24.0 | 81 55 00.3 | Odd | | 4,458.21 | |
| | | 133 09 26.373 | | 305 36 02.2 | 125 36 59.9 | Mel | | 1,447.67 | |
| Mart, 1959 \ | d.m. | 56 40 42.408 | | 272 11 56.5 | 92 14 38.2 | Kell | | 3,128.47 | |
| | | 133 07 54.505 | | 342 48 34.8 | 162 49 30.7 | Chet | | 3,863.46 | |
| Castle, 1959 \ | d.m. | 56 40 27.907 | | 307 29 00.0 | 127 30 24.9 | Kell | | 2,181.77 | |
| | | 133 10 00.191 | | 4 57 25.7 | 184 57 04.9 | Chet | | 4,903.54 | |
| Clay, 1959 \ | d.m. | 56 41 45.274 | | 52 31 02.3 | 232 29 45.5 | Clover | | 1,571.60 | |
| | | 133 09 58.482 | | 258 08 53.4 | 78 10 38.4 | Mart | | 2,186.69 | |
| Rook, 1959 \ | d.m. | 56 41 27.811 | | 282 46 17.6 | 102 49 27.5 | Kell | | 3,970.28 | |
| | | 133 12 01.329 | | 322 32 03.0 | 142 32 31.3 | Clover | | 946.90 | |
| Mac, 1959 \ | d.m. | 56 42 33.507 | | 0 41 47.6 | 180 41 46.2 | Castle | | 2,869.76 | |
| | | 133 11 09.038 | | 255 30 01.5 | 75 31 44.2 | Clay | | 2,159.54 | |
| Carl, 1959 \ | d.m. | 56 42 28.550 | | 288 27 07.4 | 108 30 33.7 | Mart | | 4,430.48 | |
| | | 133 12 55.406 | | 311 55 26.6 | 131 57 07.8 | Castle | | 2,772.53 | |
| | | | | 321 10 05.0 | 141 11 04.0 | Clay | | 1,915.03 | |
| | | | | 23 39 15.9 | 203 38 32.2 | Rook | | 2,213.42 | |
| | | | | 265 08 40.5 | 85 10 09.4 | Mac | | 1,816.19 | |
| | | | | 293 57 03.4 | 113 59 31.3 | Carl | | 3,294.81 | |
| | | | | 333 53 50.3 | 153 54 35.5 | Rook | | 2,092.07 | |

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USCOMM-C&GS-DC: 5114

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FORM 7887
(1-5-55)

GEOGRAPHIC POSITIONS

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

III 951

Accession No. of Computation:

Locality Duncan Canal

North American 1927 Datum Second & Third

—order Triangulation. State Alaska

| STATION | | LATITUDE AND LONGITUDE | SECONDS IN METERS | AZIMUTH | BACK AZIMUTH | TO STATION | DISTANCE | | |
|---------------------------|------|------------------------|-------------------|-------------|--------------|------------|--------------------|----------|------|
| | | | | | | | LOGARITHM (METERS) | METERS | FEET |
| Claude, 1959 | d.m. | 56 42 52.648 | | 330 44 58.1 | 150 45 14.4 | Mac | | 678.61 | |
| | | 133 11 28.528 | | 12 00 40.5 | 192 00 13.1 | Rook | | 2,682.92 | |
| Erv, 1959 | d.m. | 56 43 21.970 | | 63 14 46.3 | 243 13 53.7 | Carl | | 1,655.34 | |
| | | 133 13 34.010 | | 293 00 30.4 | 113 02 15.3 | Claude | | 2,319.05 | |
| Ohmer, 1959 | d.m. | 56 44 12.331 | | 301 16 42.0 | 121 18 43.2 | Mac | | 2,885.90 | |
| | | 133 12 44.566 | | 335 55 31.5 | 155 56 49.0 | Rook | | 3,867.30 | |
| Indian, 1959 | d.m. | 56 45 02.249 | | 338 19 20.5 | 158 19 52.8 | Carl | | 1,778.11 | |
| | | 133 14 52.128 | | 332 18 29.4 | 152 19 33.0 | Claude | | 2,783.37 | |
| Jack, 1959 | d.m. | 56 45 27.635 | | 3 17 17.1 | 183 17 08.0 | Carl | | 3,215.48 | |
| | | 133 13 21.547 | | 28 21 42.5 | 208 21 01.2 | Erv | | 1,770.18 | |
| Hill, 1959 | d.m. | 56 45 14.396 | | 305 26 27.9 | 125 28 14.6 | Ohmer | | 2,661.86 | |
| | | 133 10 11.026 | | 336 48 45.9 | 156 49 51.2 | Erv | | 3,374.22 | |
| "A" Point, 1959 | d.m. | 56 45 15.921 | | 344 53 42.3 | 164 54 13.2 | Ohmer | | 2,412.66 | |
| | | 133 10 07.228 | | 3 07 16.3 | 183 07 05.9 | Erv | | 3,892.90 | |
| Test Tower, 1959 | n.d. | 56 45 16.38 | | 62 58 53.4 | 242 57 37.7 | Indian | | 1,727.97 | |
| | | 133 10 09.12 | | 14 59 49.7 | 194 58 17.5 | Rook | | 7,255.52 | |
| CAA, 1959 | d.m. | 56 45 01.117 | | 44 48 05.4 | 224 45 15.7 | Erv | | 4,899.12 | |
| | | 133 14 52.411 | | 85 32 07.1 | 265 28 12.0 | Indian | | 4,791.74 | |
| RNG, Petersburg PEG, 1959 | n.d. | 56 44 54.982 | | 53 50 20.5 | 233 50 17.3 | Hill | | 79.930 | |
| | | 133 15 00.970 | | 293 38 41 | 113 38 43 | "A" Point | | 35.11 | |
| | | | | 27 51 35 | 207 51 35 | Hill | | 63.37 | |
| | | | | 137 48 35 | 7 48 38 | Indian | | 35.343 | |
| | | | | 217 38 14 | 37 28 21 | CAA | | 23.094 | |

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USCOMM-C&GS-DC: 5114

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 14, 1966

Nautical Chart Division:

Plane of reference approved in
3 volumes of sounding records for

F. E. No. 4 1965
~~HYDROGRAPHIC SHEET~~

Locality: Duncan Canal, Alaska

Chief of Party: J. K. Richards 1965

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Castle Island

Height of Mean High Water above Plane of Reference is as follows:

14.6 feet

Remarks


Chief, Tides and Currents Branch

[illegible]

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. F.E.No.4-1965

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

| RECORD DESCRIPTION | | AMOUNT | RECORD DESCRIPTION | | | AMOUNT |
|--------------------|---------------|----------------------|--------------------|------------|---------------|--------------------------------|
| SMOOTH SHEET | | | BOAT SHEETS | | | 1 ✓ |
| DESCRIPTIVE REPORT | | 1 ✓ | OVERLAYS | | | |
| DESCRIPTION | DEPTH RECORDS | HORIZ. CONT. RECORDS | PRINTOUTS | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/ SOURCE DOCUMENTS |
| ENVELOPES | 1 ✓ | | | | | |
| CAHIERS | | | | | | |
| VOLUMES | 3 | | | | | |
| BOXES | | | | | | |

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) 1-Mylar manuscript for transferring shoreline and topo. signals. 1 ea.-Bromide copy of h-1808 and 1809 (1887)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

| PROCESSING ACTIVITY | AMOUNTS | | | |
|--|------------------|----------------------|-------------|--------|
| | PRE-VERIFICATION | VERIFICATION | REVIEW | TOTALS |
| POSITIONS ON SHEET | | | | 358 |
| POSITIONS CHECKED | | Note: Sheet | | 165 |
| POSITIONS REVISED | | revised and reviewed | | 1 |
| DEPTH SOUNDINGS REVISED | | simultaneously | | 1 |
| DEPTH SOUNDINGS ERRONEOUSLY SPACED | | | 6 km. | 3 |
| SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED | | | | 0 |
| TIME (MANHOURS) | | | | |
| TOPOGRAPHIC DETAILS | | | | 1 |
| JUNCTIONS | | | | 0 |
| VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS | | | | 2 |
| SPECIAL ADJUSTMENTS | | | | 4 |
| ALL OTHER WORK | | | | 41 |
| TOTALS | | | | 48 |
| PRE-VERIFICATION BY | | BEGINNING DATE | ENDING DATE | |
| VERIFICATION BY | | BEGINNING DATE | ENDING DATE | |
| REVIEW BY | | BEGINNING DATE | ENDING DATE | |

Field Examination No. 4, 1965
Southeast Alaska
Castle Islands, Duncan Canal

1. The field examination was made in compliance with Instructions for Special Project 6-65, dated 18 May, 1965.
2. The purpose of the examination was to show in greater detail the hydrography of this area at a scale adequate for charting.
3. The results of the examination are shown on the accompanying boat sheet.
4. The charted hydrography (Chartlet 1266, dated May 21, 1966) originates with the present field examination prior to verification and review and is in adequate agreement with it in its final form.
5. Minor differences between soundings on the accompanying boat sheet and reduced soundings in the field records are attributed to the use of predicted tides on the boat sheet as opposed to actual tides in the field records. Differences greater than .3 fm were corrected by application of actual tide values to critical depths only.
6. The descriptive report adequately covers all matters pertaining to the examination. No further discussion is considered necessary.

Reviewed by: G. K. Myers
June 21, 1966

Inspected by: R. H. Carstens

R H Carstens
Lorne G. Taylor
Approved: Lorne G. Taylor
Chief, Marine Chart
Division

UNADJUSTED FIELD COMPUTATIONS

Accession No. of Computation: _____

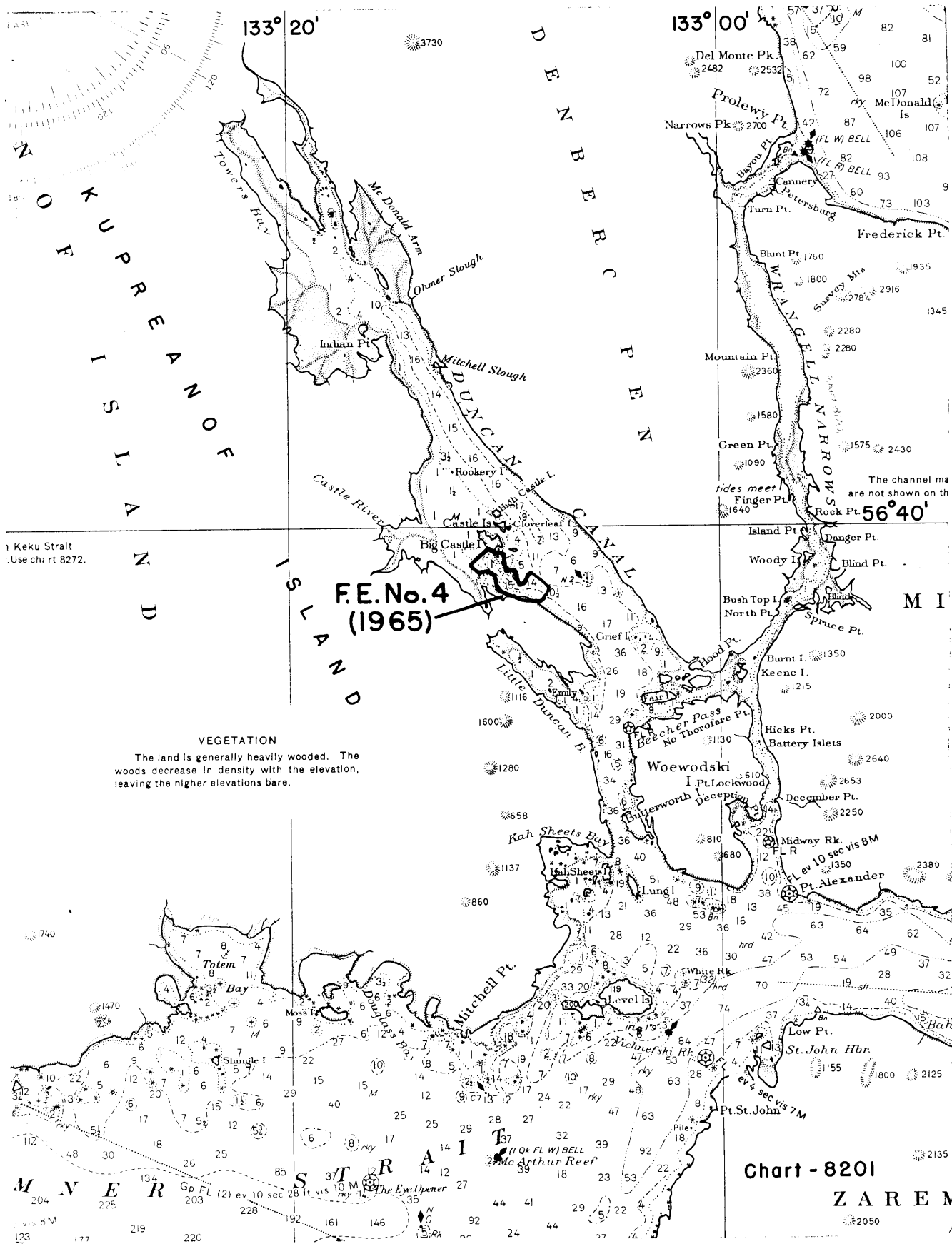
North American 1927 Datum.

SECOND

—order Triangulation. State ALASKA

16-15634-1 U. S. GOVERNMENT PRINTING OFFICE

¹ No check on this position. Abbreviations used: d.=described; m.=marked; n.=not; r.=recovered; l.=lost; p.=probably. (Examples: n. d.=not described; p. l.=probably lost.)





RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. F.E.No.4-1965

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

[illegible]